

Quasi-equilibrium extraction processes

S/830/82/000/001/007/012
E111/E192

$$\frac{1 - \epsilon_2}{1 - \epsilon_1} = \frac{\left(1 + \frac{D_1 v'}{v}\right)^n}{\left(1 + \frac{D_2 v'}{v}\right)^n} \quad (8)$$

For dynamic batch extraction the basic equation is:

$$C_m = C_0 \frac{e^{-\frac{w}{v' + \frac{v}{D}}}}{(m-1)!} \cdot \left(\frac{w}{v' + \frac{v}{D}}\right)^{m-1} \quad (21)$$

where: C_m is the equilibrium concentration of the separating material at the m^{th} stage; C_0 the concentration in the feed; w the volume of solvent passed through the feed. Two examples of separation: a) where the distribution coefficients are close in value; and b) where the difficulty is the required high purity, Card 2/4.

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are given. For counter-current dynamic extraction the proportion of the material being extracted ϵ , in the extract, is given by:

$$\epsilon = \frac{Dw_2 c_n}{c_o v_o} = \frac{1}{(1 + \varphi)} \quad (59)$$

while that in the raffinate, $1 - \epsilon$, is given by:

$$1 - \epsilon = \frac{c_1 v_1}{v_o c_o} = \frac{\varphi}{(1 + \varphi)} \quad (60)$$

Here, c_1 and c_n are the concentrations in the first and last stages, respectively, and are given by:

$$c_1 = \frac{c_o v_o}{v_1} \left(1 + \frac{1}{\varphi}\right)^{-1} ; \quad c_n = \frac{c_o v_o}{v_1} \left[\frac{Dw_2}{v_1} (1 + \varphi)\right]^{-1} \quad (55)$$

where: w_1 and w_2 are the volumetric velocities of one of the phases at the two ends; v_1 and v_2 those of the other phase;

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v_0 and w_0 the corresponding values for the feed (concentration c_0) which is introduced at the s th stage (counting in the direction of movement of the solvent, w); φ is given by

$$\varphi = \frac{\left[\left(\frac{v_2}{Dw_2} \right)^{n-s+1} - 1 \right] \left[\frac{Dw_1}{v_1} - 1 \right] v_1}{\left[\frac{v_2}{Dw_2} - 1 \right] \left[\left(\frac{Dw_1}{v_1} \right)^s - 1 \right] Dw_2} \quad (56)$$

For calculating fully counter-current systems an approximate method is described, based on simplified expression for φ . A number of variants based on the above fundamental approach is also developed. There are 2 figures and 1 table.

Card 4/4

DAMASKIN, B.I.; LEVIN, V.I.

Analyzing the performance of the gears of sewing machines.
Shvein.prom. no.3:19-23 My-Je '62. (MIRA 15:6)
(Sewing machines) (Gearing)

36050

S/081/62/000/008/027/057
B160/B101

24.6210
AUTHORS:

Levin, V. I., Bochkarev, V. V.

TITLE:

Producing radioisotopes in a reactor by using threshold, consecutive and secondary nuclear reactions

PERIODICAL:

Referativnyy zhurnal. Khimiya, no. 8, 1962, 348, abstract 8K8 (Tr. Tashkentsk. konferentsii po mirn. ispol'zovaniyu atomn. energii. v. 2. Tashkent, AN UzSSR, 1960, 368 - 372)

TEXT: It is shown that certain radioactive isotopes which cannot be produced from the (n, γ) reaction can be produced on an industrial scale by using the (n, p) , (n, α) and $(n, 2n)$ threshold neutron reactions and also by using certain secondary processes taking place in a reactor, in particular repeated (n, γ) reactions or reactions of the target isotopes with tritons formed, for example, in the $Li^6(n, \alpha)H^3$ reaction. Methods of obtaining the isotopes Co^{58} , As^{74} , Mn^{54} , Na^{24} , Zr^{89} and Nb^{92} by using the threshold reactions: $Ni^{58}(n, p)Co^{58}$, $Se^{74}(n, p)As^{74}$, $Fe^{54}(n, p)Mn^{54}$, $Al^{27}(n, \alpha)Na^{24}$, $Mo^{92}(n, \alpha)Zr^{89}$, $Mo^{92}(n, p)Nb^{92}$ are described. This method of
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S/078/62/007/009/007/007
B144/B101

AUTHORS: Korpunov, G. V., ~~Levin, V. I.~~ Brezhneva, N. Ye.,
Prokhorova, N. P., Yankovich, I. V., Seredenko, P. M.

TITLE: Extractive separation of cerium

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 7, no. 9, 1962, 2254-2261

TEXT: Practical methods for extractive separation of C^{IV} from rare earth (RE) concentrates were developed by studying the distribution coefficients and taking account of the following factors: 1) The solvate formed in C^{IV} nitrate extraction by way of tributyl phosphate (TBP) from HNO_3 media of different concentration is $H_2[Ce(NO_3)_6] \cdot 2(C_4H_9)_3PO_4$. On complete saturation the organic phase contains per liter 200-210 g metallic Ce or 250 g CeO_2 . 2) When TBP is diluted with hydrated kerosene, xylene, toluene, or CCl_4 , the capacity changes proportionally with the dilution. 3) TBP must be purified by oxidation or vacuum distillation. 4) The optimum HNO_3 concentration is 3 - 5 moles/l and corresponds to the overall minimum
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Extractive separation of cerium .

S/073/62/007/009/007/007
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distribution coefficients of Re^{III} . 5) Oxidation should be obtained:
a) by H_2O_2 for $\text{pH} > 5$ or by atmospheric O_2 , if large quantities are involved;
b) by KBrO_3 , KMnO_4 , ozone, if small quantities must be separated.
6) Reextraction with H_2O_2 dissolved in dilute HNO_3 yields Ce^{III} . 7) The
 Re^{III} distribution coefficients depend on the Co content in the organic
phase and on the dilution of TBP. Hence 100% TBP and dilute TBP are
suggested for the extraction respectively of large and small Co quantities,
or both methods can be combined. The operation is either continuous or
intermittent. A plant consisting of one extraction and two washing stages
is suggested. There are 4 figures and 5 tables.

SUBMITTED: November 27, 1961

Card 2/2

S/847/62/000/000/002/003
B144/B186

AUTHORS: Nazin, A. G., Levin, V. I., Colutvina, M. M.

TITLE: Production of radiochemically pure yttrium⁹⁰ without a carrier

PERIODICAL: Metody polucheniya radioaktivnykh preparatov; sbornik statey (Methods of producing radioactive preparations; collection of articles). Moscow, Gosatomizdat, 1962. 170 p. illus., biblio 118 - 123

TEXT: Organic solvents were used to extract Y⁹⁰ from Sr⁹⁰. Out of ~10 organic solvents, tributyl phosphate (I) was the only one which gave satisfactory distribution coefficients when extractions were made from HCl and HNO₃ solutions as well as from strontium nitrate and strontium chloride solutions; using 11 - 12 N HNO₃, ~14 was obtained for Y, and 0.003 for Sr; using 11 - 12 N HCl, a coefficient of 6.5 was found for Y and 0.01 for Sr. After this type of extraction the Sr⁹⁰ impurity still amounts to 0.3%. Since for medical purposes the Sr⁹⁰ impurity must not exceed 10⁻⁴%, the preparation must be purified by washing it twice with 12 N HNO₃, whereby the Sr⁹⁰ impurity is reduced to 3.10⁻⁶%, but the yield Card 1/2

Production of radiochemically pure...

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in Y^{90} is decreased from 93 to 80%. A continuous extraction method involving 3 mixer-settlers proved to be more suitable. Y was extracted in the first vessel and the extract was washed in the following two. Y is transformed into the aqueous phase in a reextractor. The vessels 1-3 were each filled with 250 ml 12 N HNO_3 , and in addition 2 ml of a Sr^{90} solution with 39 mcu were added to the content of the first vessel. After mixing, 500 ml of I were introduced into vessel 1 at a rate of 4-5 ml/min; compound I was given a preliminary washing with a 2% soda solution, H_2O , and then saturated with 12 N HNO_3 . As soon as I, after having passed vessel 1-3, had reached vessel 4, the extract was treated with 3 portions of 200 ml H_2O at 50-60°C successively, and the reextract was washed with CCl_4 to remove the residues of I. The Y^{90} content in the three portions was 89.5, 74, and 0.5%, respectively; the total yield was ~97%. The paper-chromatographic investigation gave a Y purity of 99.999%. There are 3 figures.

Card 2/2

LEVIN, V.I.; MESHCHEROVA, I.V.; MARYGINA, A.B.; SARVETNIKOV, O.Ye.

Extraction method of isolation of carrier-free calcium-45
from fast neutron-irradiated scandium. Radiokhimiya 5
no.1:37-41 '63. (MIRA 16:2)

(Scandium) (Calcium isotopes) (Neutrons)

LEVIN, V.I.; KOZYREVA, L.S.

Extraction of indicator concentrations of hydrochloric acid
with tributyl phosphate. Isolation of carrier-free fluorine-18
from a neutron-irradiated lithium salt. Radiokhimiya 5 no.1:41-49
'63. (MIRA 16:2)

(Fluorine isotopes)

(Lithium salts)

(Neutrons)

GIRSHMAN, A.Ye., doktor tekhn.nauk, prof.; LEVIN, V.I., inzhener-ekonomist

Dynamics of the cost of construction of new railroads during the
last twenty years. Trudy MII no.162:5-26 '63. (MIRA 17:4)

LEVIN, V.I.

On a rational form of the law of distribution in the process
of extraction. Radiokhimiia 5 no.4:505-507 '63. (MIRA 16:10)

(Extraction (Chemistry)) (Electrolyte solutions)

L 14423-63

EWI(m)/BDS

LFITC/ASD

54

ACCESSION NR: AP3003972

8/0089/63/015/001/0023/0030

AUTHOR: Brezhneva, N. Ye.; Levin, V. I.; Korpusev, G. V.; Bogacheva, Ye. K.;
Man'ko, N. M.

TITLE: Separation of Zr^{95} , Nb^{95} , and Ru^{106} from a mixture of fission products by extraction with tributyl phosphate /9

SOURCE: Atomnaya energiya, v. 15, no. 1, 1963, 23-30

TOPIC TAGS: Zr^{95} , Nb^{95} , Ru^{106} , fission product, fission-product extraction, extracting agent, tributyl phosphate extracting agent, reextraction, solvent extraction, complexing agent, hydrogen peroxide, oxalic acid, sodium nitrite, nitric acid concentration, zirconium complex, niobium complex, ruthenium complex, distribution coefficient, Ru^{106} sulfide coprecipitation

ABSTRACT: Methods were studied for obtaining radiochemically pure Zr^{95} , Nb^{95} , and Ru^{106} by a general procedure for separation of fission products, described previously (N. Ye. Brezhneva, V. I. Levin, G. V. Korpusev i dr. V kn. "Trudy* Vtoroy mezhdunarodnoy konferentsii po mirnomu ispol'zovaniyu atomnoy energii." Dokl. sov. uchenykh. T. 4. M., Atomizdat, 1959, str. 57.). The physicochemical mechanism of solvent extraction with tributyl phosphate (TBP) was investigated

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L 14423-63

ACCESSION NR: AP3003972

under static and dynamic conditions. Pure Zr^{93} , Nb^{93} , Ru^{106} , Y^{91} , Eu^{152} , and Eu^{154} radioactive isotopes were used to prepare synthetic solutions. In the static method, extraction was effected by shaking in separatory funnels a synthetic nitric acid solution of each of the three pure isotopes, with pure TBP or with a 40% solution of TBP in kerosene. It was shown that the distribution coefficient (K_D) between the organic (TBP) phase and aqueous nitric acid 1) increases continuously during extraction of Nb or Zr when the equilibrium concentration of HNO_3 is increased, but passes through a sharp maximum in the case of Ru; 2) is much lower on extraction of Nb or Zr with dilute TBP than with pure TBP; 3) increases as the square of TBP concentration in the organic phase during extraction of Nb with dilute TBP; 4) is much higher in reextraction than in extraction of Nb or Zr from TBP; and 5) increases on consecutive re-extractions of Nb, Zr, or Ru. These and earlier data indicate the formation of extractable Zr or Nb complexes of the $Zr(NO_3)_4 \cdot nHNO_3 \cdot 2TBP$ type and of an extractable Ru complex, $Ru(NO_3)_3$. Formation of the latter requires the presence of certain nitrogen oxides or nitrous acid, together with HNO_3 or NO_2^- ions. The increase in K_D on repeated reextractions of Ru is attributed to the conversion of $RuNO(NO_3)_2$ in the organic phase to more stable complexes with TBP. Similarly, several stable Zr or Nb complexes are present in both phases. The fact that the establishment of equilibrium between complexes is slow explains

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the difficulty of Zr or Nb reextraction. However, this difficulty can be overcome by the addition of hydrogen peroxide or oxalic acid to aqueous HNO_3 , as complexing agents for Nb and Zr, respectively. The data show that in the presence of the complexing agent $\text{K}_2\text{C}_2\text{O}_4$ for Zr and Nb on reextraction is greatly diminished. Thus, it was possible to achieve 74–90% reextraction of Nb or Zr, provided $[\text{HNO}_3]$ was no higher than 13 N for Nb or 5 N for Zr. Separation of Nb and Zr by extraction under dynamic conditions was carried out in a glass semi-countercurrent 20-stage extractor. Experimental extraction of a mixed Zr^{95} and Nb^{95} synthetic solution in 10 N HNO_3 containing 2% H_2O_2 produced nearly complete separation, as shown by the radioactivity absorption (transmission) curves of pure Zr^{95} and Nb^{95} . In another experiment, a nitric acid solution of iron hydroxide precipitate from the actual processing of fission products was extracted with 9.8 N HNO_3 . Reextraction of Nb with HNO_3 and H_2O_2 was carried out first; then Zr was reextracted with HNO_3 and oxalic acid. The absorption (transmission) curves for the Zr^{95} and Nb^{95} products coincided with those for pure Zr^{95} and Nb^{95} . Separation of Ru^{106} from a mixture of long-lived radioactive isotopes by coprecipitation with nickel, copper, lead, or cadmium sulfides is described as a preliminary step to Ru^{106} extraction from 0.2 N HNO_3 solution of the sulfides. The 0.2 N NaNO_2 was added prior to extraction with TBP. It was shown that about 98% Ru^{106} was extracted from the sulfides. Orig. art. has: 8 figures and 7 tables.

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L 17580-63

EXP(q)/ENT(m)/BDS AFFTC/ASD JD/JO

ACCESSION NR: AP5005222

S/0089/63/015/002/0138/0146

AUTHORS: Levin, V. I.; Korpasov, G. V.; Man'ko, N. M.; Patrusheva, Ye. N.;
Prokhorova, N. P.; Platinov, G. F.

59

TITLE: Extraction of tetravalent cerium^{IV} with organic solvents.

SOURCE: Atomnaya energiya, v. 15, no. 2, 1963, 138-146.

TOPIC TAGS: cerium, tetravalent cerium, organic solvent, ozone, diethyl ether, nitromethane, tributyl phosphate

ABSTRACT: Authors studied the oxidation of small quantities of cerium and the mechanism of the extraction precipitation of microamounts of radioactive cerium. Authors showed that the use of ozone is most expedient for the oxidation of cerium, as it does not contaminate the solution by extraneous ions. The extraction of Ce(IV) by diethyl ether, nitromethane, and tributyl phosphate was studied, and it has been shown that in the first case, cerium is extracted as saturated cerium acid. In the latter two cases, at low HNO₃ concentrations, cerium is extracted as nitrate whereas at high concentrations it is extracted as H₂[Ce(NO₃)₆]. The constants of the complex formation of Ce(IV) with the nitrate ions were estimated. Orig. art. has: 16 figures, 3 tables and 7 formulas.

Card 1/2

DAMASKIN, B.I., doktor tekhn. nauk, prof.; LEVIN, V.I., kand. tekhn. nauk,
starshiy prepodavatel'; FROLOV, A.P., inzh.

Loading of the shafts of a semiautomatic Class 27 sewing machine.
Nauch. trudy MTIP no.28:225-229 '63.

(MIRA 17:11)

1. Kafedra detalей машин Moskovskogo tekhnologicheskogo instituta
legkoy promyshlennosti.

LEVIN, Valentin Il'ich; KAPOVA, T.V., red.

[Radioactive manganese] Radioaktivnyi marganets. Moskva, Atomizdat, 1964. 12 p. (MIRA 17:5)

LEVIN, Valentin Il'ich; KAPOVA, T.V., red.; POPOVA, S.M., tekhn.
red.

[Radioactive krypton and xenon isotopes] Radioaktivnye izo-
topy kriptona i ksenona. Moskva, Atomizdat, 1964. 25 p.
(MIRA 17:3)

BREZHNEVA, N.Ye.; LEVIN, V.I.; KORPUSOV, G.V.; MAN'KO, N.M.; PLOTNOV,
G.F.

Isolation of radioactive carrier-free cerium from a mixture
of fission products. *Raidokhimiia* 6 no. 1:66-72 '61.
(MIRA 17:6)

SOKOLOV, V.A.; LEVIN, V.I.

Separation by extraction of small amounts of tellurium and
molybdenum. Zhur. neorg. khim. 9 no.3:742-745 Mr '64.
(MIRA 17:3)

BREZHNEVA, N.Ye.; LEVIN, V.I.; KORJUSOV, G.V.; PATRUSHEVA, Ye.N.;
MAN'KO, N.M.; KHCRESKO, L.T.

Separation of promethium-147 and europium-155 from a mixture
of fission products by tributyl phosphate extraction. Radiokhimiia
6 no.3:265-276 '64. (MIRA 18:3)

KURCHATOVA, L.N.; LEVIN, V.I.

Evaluation of the cross sections of nuclear reactions $Sc^{45}(n, \gamma)K^{42}$, $Ca^{42}(n,p)K^{42}$ and $Ca^{43}(n,p)K^{43}$. Preparation of carrier-free K^{42} and K^{43} . Radiokhimiia 7 no.3:336-341 '65. (MIRA 18:7)

LEVIN, V.I.; BREZHNEVA, N.Ye.; RATNIKOVA, M.G.

Preparation of samples and self-absorption correction in measuring the
activity of soft beta-emitters. Radiokhimiia 7 no.3:346-350 '65.
(MIRA 18:7)

DAMASKIN, B.I. (Moskva); LEVIN, V.I. (Moskva)

Studying the automatic mechanisms of universal sewing machines for
cutting the upper and bottom threads. Invein.prom. no. 6-8-31 S.O
'65. (MIRA 18:10)

KOZLOVA, M.D.; LEVIN, V.I.

Extraction of carrier-free silver from hydrochloric solutions
by tributyl phosphate. Part 3: Effect of chloride-ion concen-
tration. Radiokhimiia 7 no.5:534-538 '65.

(MIRA 18:10)

LEVIN, V.I.; KOZLOVA, M.D.; MALININ, A.B.

Preparation of silver-111 without a carrier. Formation of ^{111}Ag
and $^{110\text{m}}\text{Ag}$ in the neutron irradiation of palladium. Radiokhimiia
7 no.6:673-677 '65. (MIRA 19:1)

MERCHATOVA, L.N.; LEVIN, V.I.; MOROZOV, I.N.

Effective cross-sections of the reaction $\text{Ca}^{48}(n,2n)\text{Ca}^{47}$ for
14-15 Mev neutrons and for fission neutrons. Radiokhimiya 7
no.4:471-475 '65. (MIRA 18:8)

KOZLOVA, M.D.; LEVIN, V.I.

Carrier-free extraction of silver from hydrochloric solutions by tributyl phosphate. Part 1: Solvation of silver and hydrochloric acid in the organic phase. Comparative method of studying solvation in extraction. Radiokhimiia 7 no.4: 430-436 '65.

Carrier-free extraction of silver from hydrochloric solutions by tributyl phosphate. Part 2: Effect of hydrogen-ion concentration. Ibid.:437-442 (MIRA 18:8)

L 34615-66 EWT(m)

ACC NR: AP6026572

SOURCE CODE: UR/0186/65/007/006/0673/0677

AUTHOR: Lavin, V. I.; Kozlova, M. D.; Malinin, A. B.

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B

ORG: none

TITLE: Obtaining silver-111 with a carrier. Formation of Ag sup 111 and Ag sup 110m by irradiating palladium with neutrons

SOURCE: Radiokhimiya, v. 7, no. 6, 1965, 673-677

TOPIC TAGS: neutron irradiation, palladium, silver, chromatography, chemical purity, isotope

ABSTRACT: A method has been developed for obtaining silver-111 without a carrier from neutron-irradiated palladium. The method is based on the use of extractive chromatography in a column containing an inert carrier (Ftoroplast-4, covered with a tributylphosphate film). The silver-111 preparation obtained under this method contains about 0.015-0.025% silver-110m (at the moment of completion of irradiation). No other radioactive impurities were detected. It was shown that the impurity of the long-lived silver isotope is produced by a chain of nuclear reactions. Orig. art. has: 4 figures and 3 formulas. [JPRS: 36,455]

SUB CODE: 20, 07 / SUBM DATE: 30May65 / ORIG REF: 005 / OTH REF: 003

Card 1/1

UDC: 539.172.4:546.57.02.111

LEVIN, VIKTOR IGOROVICH

613.05
.166

Metody Matematicheskoy Fiziki (Methods of Mathematical Physics)
Moskva, Uchpedgiz, 1956.
242 P. Diagrams, Tables.

613.05
611

N/5
N/5

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LEVIN, V.I.
BUKHSHTAB, A.A., prof.; VILENKIN, M.Ya., prof.; PILENKO, M.D., dots;
NOVIKOV, P.S., prof.; PEREPELKIN, D.I., prof.; LEVIN, V.I., red.;
KHMYS, I.O., tekhn.red.

[Programs of pedagogical institutes; analytic geometry, mathematical analysis, methods of mathematical physics] Programmy pedagogicheskikh institutov; analiticheskaya geometriya, matematicheskii analiz, metody matematicheskoi fiziki. [Moskva] Uchpedgiz, 1957. 12 p. (MIRA 11:3)

1. Russia (1917- R.S.F.S.R.) Glavnoye upravleniye vysshikh i srednikh pedagogicheskikh uchebnykh zavedenii.
(Geometry, Analytic--Study and teaching)
(Mathematics--Study and teaching)

LEVIN, V.I.

ANDRONOV, I.K., prof.; BRADIS, V.M., prof.; LEVIN, V.I., prof., red.;
MAKSAYEV, A.V., tekhn.red.

[Programs of pedagogical institutes; elementary mathematics for
physics and mathematics faculties; major: mathematics] Programmy
pedagogicheskikh institutov; elementarnaya matematika dlia fiziko-
matematicheskikh fakul'tetov. Spetsial'nost' - matematika. Moskva,
Gos. uchebno-pedagog. izd-vo M-va prosv. RSFSR, 1957. 15 p.

(MIRA 11:3)

1. Russia (1917- R.S.F.S.R.) Glavnoye upravleniye vysshikh i
srednikh pedagogicheskikh uchebnykh zavedenii.
(Mathematics--Study and teaching)

LEVIN, V.I. (Moscow)

Generalizing the arithmetic and geometric mean. Mat. pros. no.2:195-
204 '57. (MIRA 11:7)

(Functional analysis)

BALK, M.B. (Smolensk); DUBNOV, Ya. S. (Moscow); PYATETSKIY-SHAPIRO,
I.I. (Ksluga); VILENKIN, N. Ya. (Moscow); BALASH, E.E. (Moscow);
LEVIN, Y.I. (Moscow); DMITRIYEV, N.A. (Moscow); DYNKIN, Ye. B.
(Moscow); HAYMARK, B.A. (Moscow); GEL'FAND, I.M. (Moscow)

Problems of higher mathematics. Mat. pros.no.2:270-274 '57.
(MIRA 11:7)

(Mathematics--Problems, exercises, etc.)

LEVIN, V.I. (Moskva)

Training of mathematics teachers in pedagogical institutes.

Mat. pron. no.3:77-88 '58.

(MIRA 11:9)

(Mathematics--Study and teaching)

LEVIN, V.I. (Moskva)

Elementary proof of a mean value theorem. Mat. pros. no.3:
177-181 '58. (MIRA 11:9)
(Mathematical analysis)

ZALGALLER, S.I. (Leningrad); SKOPETS, Z.A. (Yaroslavl'); ROYE-BIKSTOV, F.S.
(Khar'kov); LANDIS, Ye.M. (Moskva); LEVIN, V.I. (Moskva); STECHKIN,
S.B. (Moskva); LYAPUNOV, A.A. (Moskva); ARNOL'D, V.I. (Moskva);
LOPSHITS, A.M. (Moskva)

Problems of higher mathematics. Mat.pros. no.3:270-274 '58.
(MIRA 11:9)
(Mathematics--Problems, exercises, etc.)

LEVIN, V. I.

AUTHOR: Nagibin, F.F., (Kirov) SOV/3-58-12-28/43

TITLE: Intervuz Scientific and Methodical Conference of Chairs of Mathematics (Konferentsiya matematicheskikh kafedr)

PERIODICAL: Vestnik vysshey shkoly, 1958, Nr 12, pp 75 - 76 (USSR)

ABSTRACT: The yearly scientific-methodical conferences of the chairs of mathematics of the pedagogical institutes of the Ural have become a tradition. The 16th Conference which took place at the Kirovskiy pedagogicheskiy institut (Kirov Pedagogical Institute) was attended by 162 instructors of 50 vuzes from all over the country. Professor A.I. Markushevich, RSFSR Deputy Minister of Education, participated at the conference. At the plenary meetings, the following reports were discussed: Professor V.I. Levin (Moscow) on the development of instruction in mathematics at secondary schools; Professor A.I. Markushevich - on the concept of values; Docent B.A. Trakhtenbrot (Penza) - on the experience gained in teaching the elements of mathematical logic in a pedagogical vuz; Professor L.I. Volkovyskiy (Perm') - on the organization of work in a special seminar on mathematics; Docent N.N. Kharin (Kirov) - on contradictions in mathematics. Five sections were functioning during the conference. The reports of the following lecturers were heard: Ye.S. Berezanskaya, V.S. and L.S.

Card 1/2

ASHKINUZE, V.G.; LEVIN, V.I.; SEMUSHIN, A.D. (Moskva)

Rearranging mathematics curricula in connection with the new
tasks of secondary schools. Mat. v shkole no.1:40-51 Ja-F
'59. (MIRA 12:1)

(Mathematics)

LEVIN, V.I. (Mos'va)

Problems in the teaching of mathematics in secondary schools.

Int. vros. no. 4:145-150 '59.

(MR. 12:1)

(Mathematics--Study and teaching)

ASHKINUZE, V.G. (Moskva); LEVIN, V.I. (Moskva); SEMUSHIN, A.D. (Moskva)

Some remarks on the draft of the program on mathematics for
secondary schools. Mat. pros. no.5:127-132 '60. (MIRA 13:12)
(Mathematics---Study and teaching)

LEVIN, V.I. (Moskva)

One functional equation. Mat. pros. no.5:149-151 '60.

(MIRA 13:12)

(Functional analysis)

LEVIN, V.I.

Life and work of the Hindu mathematician S. Ramanujan. Ist.-mat.
issl. no.13:335-378 '60. (MIRA 14:8)
(Ramanujan Aiyangar, Srinivasa, 1887-1920)

PROFANOVICH, Isaak Genrikhovich; LEVIN, Viktor Iosifovich; UGAROVA,
N.A., red.

[Equations of mathematical physics] Uravneniia matematiches-
koi fiziki. Moskva, Izd-vo "Nauka," 1964. 286 p.
(MIRA 17:8)

LEVIN, V.I.; GODUNOVA, Ye.K. (Moskva)

Generalisation of Carlson's inequality. Mat. sbor. 67
no.4:643-646 Ag '65. (MIRA 18:8)

LEVIN, V.

PA 171T92

USSR/Radio - AFC Circuits
Discriminators

Sep 50

"Automatic Frequency Control," V. Levin, V.
Tsimerinov

"Radio" No 9, pp 21-24 and 55

Describes chief physical processes in ordinary
automatic frequency control circuits using
discriminator. Details and diagrams.

~~THE~~ 171T92

LEVIN, V.

USSR/Nuclear Physics - Particle counters

Card 1/1 Pub. 89 - 9/29

Authors : Levin, V., and Orlov, L.

Title : Computation of radioactive radiations

Periodical : Radio 9, 20-23, Sep 1954

Abstract : The specific characteristics of alpha-, beta- and gamma-rays, and their utilisation in measuring instruments used in radionuclide are described. Several types of measuring devices, for counting radioactive particles, are presented. Six references (1949-1953). Diagrams (including block and circuit diagrams).

Institution : ...

Submitted : ...

LEVIN V.

USSR/Electronics - Car radios

Card 1/1 Pub. 89 - 18/27

Authors : Levin, V., and Orlov, L.

Title : Automobile radio receiver

Periodical : Radio 8, 37-39, Aug 1955

Abstract : A detailed description is given of a new 6-tube superheterodyne e-wave
range radio receiver intended for installation in the Moskvich passenger
car. Diagram; illustration.

Institution :

Submitted :

LEVIN, V.K.

CARD 1 / 3

PA - 1811

SUBJECT
AUTHOR
TITLE

USSR / PHYSICS
LEVIN, V.K.

PERIODICAL

The Analysis of Transition Processes in Systems Operating according
to Qualitative Characteristic Features.
Radiotekhnika, 11, fasc.12, 55-60 (1956)
Issued: 1 / 1957

In the present work some particular features of the analysis of processes in momentum schemes of electron automatics which operate according to qualitative features (or, as is often said, according to the "yes-no" principle) are investigated. The characteristic feature of these systems consists in the fact that their activity is determined less by the quantitative values of the exchange parameters (tubes-current) than by the qualitative state of the elements (completely closed or open tube). Because of the great number of tubes a very high degree of reliability is demanded in the case of all elements. This is attained above all by the voltage drops $U_{input.m}$ at the input of the amplifier cascade.

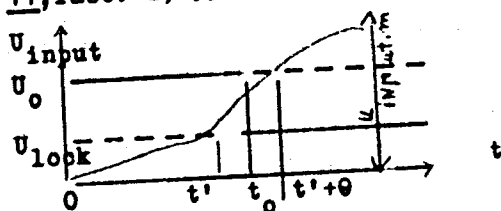
These drops are considerably greater than the potentials of the upper and the lower sections of the cascade: $U_{input.m} \gg U_o, U_{lock}$

U_{lock} is the potential of the lower section which locks the tube of the cascade,
 U_o is the potential of the upper section:

Radiotekhnika, 11, fasc.12, 55-60 (1956)

CARD 2 / 3

PA - 1811



At first the analysis of the individual amplification cascades is carried out. It is shown that if the above inequation and the characteristic of the tube which is given in form of a broken curve is satisfied, the influence of the input signal finds expression only by a shifting of the initial voltage by $t_0 - t'$. This amount is obtained if the respective cascade has an ideal drop. Next, the analysis of composed systems is carried out. As the shape of the output signal differs only slightly from that of the input signal, each cascade can be counted by itself on the assumption that a simple signal was given to the cascade (e.g. an ideal drop or a linear front. The nature of this input signal can be chosen after a rough qualitative examination of the preceding cascade. After investigation of each individual cascade, such common shifts must be chosen for each cascade as correspond to the qualitative description of the operation of the system. Mathematically this means that the common nonlinear equation of the

Radiotekhnika, 11, fasc.12, 55-60 (1956)

CARD 3 / 3

PA - 1811

dynamic operation of the system is divided into a certain number of simple equations. These equations are solved independently, but the selected shifts $t_0 - t'$ must be inserted into the time-arguments of the solutions. This method may also be employed in the case of an analysis of systems with back-coupling. The errors committed in connection with this manner of computation are very small even though reliability is comparatively low.

L 29304-64 ENT(1)
ACC NR: AF6012341

SOURCE CODE: UR/0108/66/021/004/0056/0061

AUTHOR: Levin, V. K. (Active member); Fayzulayev, B. N. (Active member)

ORG: Scientific-Technical Society of Radio Engineering and Electric Communication
im. A. S. Popov (Nauchno-tehnicheskoye obshchestvo radiotekhniki i elektrosvyazi)

TITLE: Analysis of the transmission of pulse signals in a chain of uniform shaping stages

SOURCE: Radiotekhnika, v. 21, no. 4, 1966, 56-61

TOPIC TAGS: pulse shaper, pulse signal, digital decoder, logic circuit

ABSTRACT: The authors analyze the successive shaping of a pulse passing through a chain of identical nonlinear switching stages of the diode-logic (NOT-OR, etc.) with binary output. The principal consideration in design is to see to it that the signal after passing through a long chain of such stages does not attenuate, does not increase above a certain limit, and retains stable temporal parameters (front, duration, delay). The analysis is based on the introduction of the concept of an asymptotic signal which is established in the long chain as the number of elements increases without limit. This concept can be applied to pulse signals of short duration as to pulse fronts. In the former case one speaks of asymptotic

"APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R000929530005-8"

UDC: 621.374.31

Card 1/2

L 29304-66

ACC NR: AP6012341

duration, front, or amplitude of the signal, and in the latter of asymptotic front and fall-off amplitude. Conditions for the existence of an asymptotic signal and its parameters are determined, and the duration and delay of the front of an asymptotic signal are calculated. The amplitude, duration, delay, and front of the asymptotic signal are determined for several typical circuits. Applications of the results to the analysis of operation of complicated digital devices are discussed. Orig. art. has: 7 figures and 9 formulas.

SUB CODE: 09/ SUBM DATE: 02Mar64/ ORIG REF: 005

Card

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R000929530005-8

RODMAN, L.S.; LEVIN, V.L.; POLIKARPOVA, L.D.

Quantitative characteristics of the significance of plants as
ground-water indicators in the northwestern part of the Caspian
Sea region. Nauch. dokl. vys. shkoly; biol. nauki no.3:146-153
'60. (MIRA 13:8)

1. Rekomendovana kafedroy fizicheskoy geografii Moskovskogo
gosudarstvennogo pedagogicheskogo instituta im.V.I.Lenina.
(Caspian Sea region--Water, Underground)
(Indicator plants)

35236

S/020/60/135/001/007/030

B12/B231

164600

AUTHOR: Levin, V. L.

TITLE: Non-degenerate spectra of locally convex spaces

PERIODICAL: Akademiya nauk SSSR Doklady, v 135, no 1, 1960, 12-15

TEXT: The author presents some theorems on non-degenerate spectra of locally convex spaces, particularly a criterion for the total completeness (hypercompleteness) of the limit of a non-degenerate reciprocal spectrum (hypercomplete) semireflexive space. Definition 1: *complete (hypercomplete) semireflexive space* is called to as "standard spectrum" if

Levin, V.L.

AUTHOR: Levin, V.L.

TITLE: Types of Sands in the Area West of the Caspian Sea in Connection With Geobotanic Indicators for the Lenses of Fresh Ground Waters (Tipy peskov zapadnogo Prikaspiya v svyazi s geobotanicheskoj indikatsiyey linz opresnennykh vostochnykh)

5-3-36/37

PERIODICAL: Trudy Moskovskogo Obshchestva Ispytateley Prirody, Otdel Geologicheskij, 1957, # 3, p 181 (USSR)

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R000929530005-8"

ABSTRACT: In the sands of the area west of the Caspian Sea, fresh and brackish waters occur in lenses which are qualitatively the best drinking waters. One of the methods of finding these lenses is the geobotanic method which is based on the use of certain plants as indicators of hydrogeological conditions. While carrying out these investigations, which were named hydro-indicatory, definite differences were discovered in geobotanical signs of the sands in the north-west and south-east parts of the western Caspian area.

AVAILABLE: Library of Congress

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S/020/60/135/001/002/030
B112/B231

Non-degenerate spectra of locally convex...

reciprocal spectrum $\{X_\alpha, \pi_\alpha^\beta\}$ if $Y^\alpha = X_\alpha'$ is firmly adjoint to X_α with $\pi_\beta^\alpha = (\pi_\alpha^\beta)^\times$ being the projection adjoint to π_α^β . Definition 2: The reciprocal spectrum $\{\hat{X}_\alpha, \hat{\pi}_\alpha^\beta\}$ is referred to as "adjoint to the spectrum $\{Y^\alpha, \pi_\beta^\alpha\}$ " if $\hat{X}_\alpha = (Y^\alpha)'$ is firmly adjoint to Y^α with $\hat{\pi}_\alpha^\beta = (\pi_\beta^\alpha)^\times$ being the projection adjoint to π_β^α . Theorem 1: If the reciprocal spectrum $\{\hat{X}_\alpha, \hat{\pi}_\alpha^\beta\}$ adjoint to the standard spectrum $\{Y^\alpha, \pi_\beta^\alpha\}$ is non-degenerate, the spectrum $\{Y^\alpha, \pi_\beta^\alpha\}$ is non-degenerate either. Theorem 2: If the reciprocal spectrum $\{\hat{X}_\alpha, \hat{\pi}_\alpha^\beta\}$ is adjoint to the non-degenerate standard spectrum $\{Y^\alpha, \pi_\beta^\alpha\}$ of the semireflexive spaces Y^α , it is non-degenerate either. Definition 3: A separable, locally convex space X is "totally complete" if in the space X' , adjoint to it, such partial spaces M are weakly closed as have a weakly closed average $M \cap U^{X'}$ with the polars $U^{X'}$ of all neighborhoods U of the origin of space X . Definition 4: A separable, locally convex space X is referred to as "hypercomplete" if in the space X' adjoint to it

Card 2/3

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A.I. Plesner's theorem. Usr. mat. nauk 16 no.5:177-179
S-O '61. (KIRA 14:10)
(Topology)

LEVIN, V.L.

Change in the resistance of cells to ultraviolet rays under the prophylactic action of diabol and dimezole. TSitologiya 4 no.2:214-219 Mr-Apr '62. (MIRA 15:8)

1. Laboratoriya kosmicheskoy biologii Instituta tsitologii AN SSSR, Leningrad.
(BENZIMIDAZOLE) (ULTRAVIOLET RAYS—PHYSIOLOGICAL EFFECT) (CELLS)

LEVIN, V.L. (Moskva)

Theorem on open mappings for uniform spaces. Izv. vyz. ucheb. zav.;
mat. no.2186-90 '65. (MIRA 18:6)

1. LEVIN, V.
2. USSR (600)
4. Coal Mines and Mining - China
7. Miners of free China. Mast. ugl. 1 no. 7, 1952

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

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Dissertation: "Increase of the Effectiveness of Dressing Dispersed Fractions of Coal Fines." Cand Tech Sci, Moscow Mining Inst, Moscow, 1953. (Referativnyy Zhurnal, Khimiya, Moscow, No. 16, Aug 54)

SO: SUM 393, 28 Feb 1955

1. LEVIN, V.
 2. USSR (600)
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 7. Henneke and his followers. Mast. ugl. 2, No. 2, 1953.
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LEVIN, V.

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Glorious achievements of Czechoslovakia's miners. Mast.ugl. 3
no.7:31 JI '54. (MLRA 7:7)

(Czechoslovakia--Coal mines and mining) (Coal mines and
mining--Czechoslovakia)

LEVIN, V.

Past and present of the Jiu valley. Mast.ugl.3 no.1:28-29 Ja '54.
(MLRA 7:1)

(Rumania--Coal miners) (Coal miners--Rumania)

IRVIN, V.
~~IRVIN, V.~~

Miners of the German People's Republic. Mast.ugl. 3 no.11:30
N154. (MLRA 8:3)
(Germany, East--Coal mines and mining)

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2965* Influence of Coal Flotation Concentrate on the Quality of Blast-Furnace Coke. Vliianie ugol'nogo flot-konzentrata na kachestvo domennogo koksa. (Russian.) V. L. Levin. *Ugol*, 1984, no. 9, Sept., p. 32-37.

Use of coal cleaned by flotation methods resulted in coke having good mechanical properties and low phosphorus content. Tables, graphs, photographs.

LEVIN, V.L., kand.tekhn.nauk.

New method of calculating the best concentration of solids in
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(MIRA 10:10)

(Coal preparation)
(Flotation)

LEVIN, V.L., kand.tekhn.nauk

Anthracite and lean coals for coking. Ugol' Ukr. 4 no.9:20-22
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(Coke)

OBUKHOVSKIY, Ya.M., doktor tekhn. nauk; LEVIN, V.L., kand. tekhn. nauk;
GOL'DBERG, P.Ya.

Using transition lean coals for making blast furnace coke. Met.
1 gornorud. prom. no. 5142-44 S-O '64. (MIRA 1817)

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Mechanism of the formation of puparium in flies. Uch.zap.Len.un.
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1. Embriologicheskaya laboratoriya Leningradskogo Gosudarstvennogo
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(MIRA 13:4)

1. Laboratoriya kletochnykh adaptatsiy Instituta tsitologii AN SSSR,
Leningrad.

(ULTRAVIOLET RAYS--PHYSIOLOGICAL EFFECT)

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LEVIN, V.L.; STRELKOV, A.A., otv.red.; LEBEDEV, D.V., red.isd-va;
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posobie po bibliografii dlia biologov. Moskva, Izd-vo Akad.
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Material on the history of zoology in Russian universities of
the pre-Soviet period. Trudy Inst.ist.est.i tekhn. 31:403-434 '60.
'MIRA 13:8)

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LEVIN, V.L., kand.biologicheskikh nauk

Materials on the history of zoology in Russian universities;
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Trudy Inst. ist. est. i tekhn. 41:391-413 '61. (MIRA 15:2)
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LEVIN, V.L.

Conditions for B-completeness of ultrabarreled and barreled spaces.
Dokl.AN SSSR 145 no.2:273-275 JI '62. (MIRA 15:7)

1. Predstavleno akademikom P.S.Aleksandrovym.
(Topology)

LEVIN, V.L.

A class of locally convex spaces. Dokl. AN SSSR 145 no.1:
35-37 J1 '62. (MIRA 15:7)

1. Predstavleno akademikom P.S.Aleksandrovym.
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150 no.5:981-983 Je '63. (MIRA 16:8)

1. Predstavleno akademikom P.S.Novikovym.
(Topology)

LEVIN, V.L.

Functors in categories of Banach spaces determined by KB-lineals.
Dokl. Ak. Nauk SSSR 162 no.2:262-265 My '65. (MIRA 18:5)

1. Submitted November 23, 1964.

IEVIN, V.I.

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by KB-lineals. Dokl. AN SSSR 163 no.5:1058-1060 Ag '65. (MIRA 18:8)

1. Moskovskiy gosudarstvennyy universitet. Submitted April 23, 1965.